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The Relationship Between Pre-service Class Teachers' Various Backgrounds and Conceptions of Good Physical Education.

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Abstract

This study aimed to explore if various backgrounds in leisure time physical activity and success in physical education (PE) are manifested as various kinds of conceptions of good physical education. The participants (341 women, 71 men) consisted of the first year pre-service class teachers at the University of Helsinki in Finland, during the academic years 2007-2010. The data was collected using an online questionnaire. The findings of this study suggested that gender and various backgrounds in leisure time physical activity and success in physical education (PE) are related to pre-service class teachers' conceptions of the good teaching of physical education.

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1. Introduction

Students enter formal teacher training already possessing socialized values, attitudes and conceptions of teaching physical education (PE). These conceptions, developed during the recruitment or acculturation stage of professional socialization may be deep-rooted and thus pose a challenge to formal teacher training (Lawson, 1983). According to Gage, teachers acquire stable affective characteristics, such as intentions, conceptions, attitudes, values and appreciation through

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experience (Gage, 2009, 47-51). The research has identified several ways in which pre-service teachers' values, attitudes and conceptions of teaching form from one's early childhood through the teacher training programme. Lortie (1975; 2002) presented the theory of socialization into teaching pointing out that personal school experiences serve as an apprenticeship of observation even resulting in a subjective warrant to teach. Lawson (1983; 1988) developed the model further into physical education.

When beginning their formal teacher training, students have already experienced twelve years of physical education in primary and secondary schools. These experiences in K-12 physical education socialize into particular ideologies of teaching PE (Morgan & Hansen, 2008; Green, 2002). Personal and subjective K-12 PE experiences are important factors in classroom teachers' perceived competence, attitudes and teaching practices of PE (Curtner-Smith, 2001; Webster et al, 2010; Morgan & Bourke, 2008; Morgan & Hansen, 2008). According to Bandura's (1977) theory of social learning, pre-service teachers' prior experiences are sources of information which can impact their perceived efficacy, leading to the tendency to avoid or favor specific styles, models or contents in teaching PE (Morgan & Hansen 2008). However, the significance of past experiences can be double-sided. Class teachers with positive personal experiences in PE may wish to pass similar contents, practices or interaction to their pupils. On the other hand, Morgan & Hansen (2008) noticed that classroom teachers who had negative experiences in PE as pupils avoided doing the same to their pupils. Furthermore, these teachers were more sensitive to the needs of pupils with lower levels of physical competence. This was manifested mainly in their efforts to ensure that none is left out of classes, and instead to help them to achieve specific goals in PE. (Morgan & Hansen, 2008)

Additionally, most students have a long history of leisure time physical activities and many students have a background of intensive individual or team sports (Valtonen et al, 2011). Furthermore, some students have been coached and others have been coaches or instructors. Experiences of participating in sports are linked to their perceived competence and attitudes towards teaching PE (Hutchinson, 1993; Morgan & Hansen, 2008; Penttinen, 2003, 123; Webster, 2011). Webster et al (2010) found that pre-service class teachers' perceived competence in physical activity (PA) accounted for 12% of the variance in their attitudes towards teaching PE. Personal exercise behaviour predicts non-specialist, pre-service primary school teachers' intentions to teach PE (Faulkner & Reeves, 2000). Additionally, physically active in-service class teachers provided more time for physical fitness (McKenzie et al, 1999).

Compiling the previous research, the influence of acculturation on teaching physical education is evident. Personal experiences in various contexts, such as in school PE or leisure physical activities and perceived physical competence affect values, attitudes, conceptions and intentions in teaching as well as how they teach PE. Pre-service class teachers' conceptions of good physical education are constructed from their history and are therefore strongly subjective.

2. Purpose of the study

Pre-service class teachers' personal backgrounds are important because they serve as the foundation for formal teacher training. Their various backgrounds, as research has shown, strongly impact the learning-to-be-a-teacher process, which formally begins only after about twenty years of informal 'teacher training'. Pre-service teachers' values, attitudes and intentions towards teaching PE have been socially constructed through experiences in their preceding life, and their conceptions appear to reflect them indicating their teaching behavior later on. Therefore, the main purpose of this study was to examine the relationships between pre-service class teachers' various backgrounds

and conceptions of good physical education at the beginning of their formal teacher training studies in PE. The research questions are:

- How do the pre-service class teachers describe the good PE in the primary school?
- Do the conceptions of the good PE differ between the genders?
- Do the conceptions of the good PE differ according to the form of PA background?
- Do the conceptions of the good PE differ according to the activity level of PA background?
- Do the conceptions of the good PE differ according to the success in school PE?

3. Methods

3.1. Participants

The participants consisted of an entire cohort of first year pre-service class teachers at the University of Helsinki in Finland, during the academic years 2007-2010. The resulting 412 participants comprised 341 female and 71 male students and covered 89% of the students. The much higher number of female students than male students is typical at the University of Helsinki and quite similar to gender distribution in other teacher training units in Finland. The participants' mean age was 24.7 years, and the mode was 20 years. Teacher training is highly valued in Finland, and the quality of pre-service class teachers is considered excellent.

3.2. Operationalisation of the variables

Leisure time physical activity. Students were presented an open question asking them to briefly describe their background in leisure time physical activity: What kinds of activities and how actively had they been practicing during their lifetime? Using content analysis method, we divided the answers into two domains: the *form of PA* and the *level of PA*. We then categorized both domains as follows: the *form of PA* was categorized into three subgroups on the basis of the social dimension of physical activities practiced during their lifetime preceding teacher training. The categorization was based on the activities in which they were most engaged. The first subgroup: *individual-based PA*, included activities such as yoga, modern dance, aerobics and skiing. The second subgroup: *team-based PA*, included activities such as team gymnastics, synchronised skating, cheer leading and ball games, which emphasise the need for co-operation to perform the activity. Respondents with no clear emphasis on either of the previous subgroups were placed into a *mixed PA* subgroup. The *level of PA* was categorized into three subgroups: passive, medium and active. Passive was defined as someone whose PA was infrequent, occasional and short term: (i.e., "I have attended a course in dance and occasionally go to the gym and do aerobics"). Medium activity level participants were more frequently involved in physical activities, but the duration of the pursuit remained short or the frequency was about once-a-week (i.e., "Horse riding once a week for twelve years and dance/aerobics once a week for three years"). Active participants displayed a history of exercise that was regular, more intensive and of a long duration (i.e., "I've been playing both soccer and floor ball one to four times a week since I was six-years-old").

Success in school physical education. Students were asked to report their grade for physical education that appears on the their graduation diploma from the upper secondary school. The grading scale in Finland is from 4 (fail) to 10.

Conceptions of good PE in the primary school. The following open question enquires about their conceptions: "Describe in your own words what is good PE in the primary school", was used to indicate their conceptions. We analyzed the answers and placed their conceptions of good PE into 12 categories which were derived directly from the text. Inductive categorization was used because

we wanted to describe the conceptions of good physical education as truly as possible, and which were expressed prior to formal teacher training. The good physical education in the primary school was categorized as follows: is positive, fun and playful; is encouraging and stimulating; is diverse; is inclusive and equal; promotes an active lifestyle; is non competitive; facilitates experiences of success; is child centered and safe; develops motor skills, fitness and health; is challenging and active; promotes co-operation and team spirit and supports human growth.

3.3. Data collection and analysis

The data were collected using an online questionnaire to be completed before the participants began their first year of physical education studies. The students were informed that the purpose of the enquiry was to recognise their own PA background as a part of their teacher development. They were asked to answer using their own name in order to link the data to follow-up questionnaires. Both open and multi-choice questions were used and reminders were sent twice. The online questionnaire was developed to gather basic demographic information and data in the following domains: The variable was students' conceptions of good PE in the primary school. The predictor variables included gender, PA background and success in PE. We used cross tabulation to examine the differences between variables and tested the significance of differences with the chi square test, and the effect size with Cramer's V test when the background variable was nominal, and using Eta when the background variable was ordinal. Even if the results cannot be generalised to all Finnish pre-service class teachers, they are indicative because the first phase of the entrance examination for teacher education is national and is the same for all applicants, regardless of the university. The second phase of the entrance examination varies slightly from university to university and include among other items aptitude tests, interviews and group discussions.

4. Results

4.1. Leisure time physical activity.

The form of PA. Individual-based PA was the most typical form of leisure time PA among the female students, whose subgroup comprised 53%. Among the men, 46% fell into the team-based PA subgroup. Only 22% of the men categorized into the individual-based PA subgroup and 16% of the women fell into the team-based PA subgroup. The level of PA percentage of men in the active subgroup was 68% whereas the proportion of female students was 48%. Having a passive background in physical activities was more common among female participants (14%) than among male participants (9%).

4.2. Success in school physical education.

The grades of physical education appearing on the graduation diploma from upper secondary school varied from seven to ten (on a scale from four (fail) to ten). The mean of the grades was 8.9. Of the respondents, 4% reported a satisfactory grade (7), 23% reported a good grade (8), 43% reported a very good grade (9) and 24% reported an excellent grade (10).

4.3. Conceptions of good PE in the primary school.

Female respondents reported more characteristics than did male students, naming on an average 3.5 characteristics of good PE per respondent, whereas the number among male students was 3. More than half of the respondents identified three elements or characteristics of good teaching. Firstly, 83% of the respondents reported that PE in primary school needs to be positive, fun and playful. Secondly, 67% of the students mentioned that PE classes must be encouraging and stimulating. Thirdly, 59% reported that diversity was a requirement for good PE. The percentages of the other characteristics of good PE were: is inclusive and equal (40%); promotes an active lifestyle (20%); is non-competitive (14%); facilitates experiences of success (13%); is child centered and safe (12%); develops motor skills, fitness and health (11%) ; is challenging and active (10%); promotes co-operation and team spirit (10%); is fair and equal (8%); and supports human growth (6%).

4.4. Relationship between backgrounds and conceptions of good teaching.

This study revealed three basic elements of good PE in the primary school: PE must be *positive, fun and playful*; *encouraging and stimulating* and *diverse* - characteristics identified by more than 59% of the students. Although the other characteristics of good PE were reported less frequently, it was interesting to study all of them to discover how the conceptions varied according to their respective backgrounds.

4.5. Gender and conceptions of Good PE.

Female respondents reported significantly more frequently that good PE is *encouraging and stimulating* whereas the percentage among male students was 53% ($\chi^2(1, n = 412) = 7,321, p \leq .007$, Cramer's $V = .133$). Female (14%) respondents indicated that good PE is *child centered and safe* more often than male (3%) students ($\chi^2(1, n = 412) = 6,986, p = .008$, Cramer's $V = .130$). Furthermore, female students seemed to place more emphasis on the characteristics of good PE e.g. *is non- competitive, facilitates experiences of success, and promotes a physically active lifestyle*. (Table 1)

Table 1. The conceptions of the good PE by gender

		Is encouraging and stimulating	Is inclusive and equal	Promotes PA lifestyle	Is non-competitive	Facilitates experiences of success	Is child centered and safe
Female (N=341)	f	239	128	72	51	49	48
	%	70.1%	37.5%	21.1%	15.0 %	14.4%	14.1%
Male (N=71)	f	38	35	9	5	4	2
	%	53.5%	49.3%	12.7%	7.0 %	5.6%	2.8%

4.6. Background in Leisure time PA and conceptions of Good PE.

The greatest difference in conceptions based on the form of PA occurred between respondents with backgrounds in individual vs. and team-based PA and the main findings are presented in the table 2. A history of participating in team-based physical activities seemed to favor *diversity* in PE. Furthermore, those students with a history of individual-based PA more often characterised good PE as being *non-competitive*, *child centered* and *safe* and facilitating *experiences of success*.

Table 2. The conceptions of the Good PE by the form of PA background

		Is diverse	Is non-competitive	Facilitates experiences of success	Is child centered and safe
Individual PA (N=196)	f	109	30	26	26
	%	55.6%	15.3%	13.3%	13.3%
Team PA (N=84)	f	55	9	8	5
	%	65.5%	10.7%	9.5%	6,0 %

The most interesting findings of the conceptions studied by the activity level occurred between the respondents with the history of passive vs. active PA backgrounds. The main findings are presented in the table 3. As many as 26% of respondents with a background in passive PA tended to characterise good PE as being *child centered* and *safe* whereas the corresponding percentage among those with an active background was 6%. ($\chi^2(2, n = 407) = 18,077, p = .000, \text{Eta} = .211$). Those respondents with a more of a background in active PA more often identified *diversity* as a feature of good teaching.

Table 3. The conceptions of the Good PE by the activity level of PA background

		Is diverse	Is inclusive and equal	Is non-competitive	Facilitates experiences of success	Is child centered and safe	Promotes co-operation and team spirit
Passive (N=54)	f	27	25	10	4	14	8
	%	50.0 %	46.3%	18.5%	7.4%	25.9%	14.8%
Active (N=208)	f	130	82	24	28	13	18
	%	62.5%	39.4%	11.5%	13.5%	6.3%	8.7%

4.7. Success in school PE and conceptions of good PE.

A connection seemed to exist between the grade on a student's graduation diploma from upper secondary school and his or her conceptions of good PE (table 4). The main findings suggest that the lower the students' grades the more frequently he or she characterized good PE as being child centered and safe; inclusive and equal; non-competitive; facilitating experiences of success, and developing motor skills, fitness and health.

Table 4. The conceptions of the Good PE by the success in school PE

			Is inclusive and equal	Promotes PA lifestyle	Is non- competitive	Facilitates experiences of success	Is child centered and safe	Developes motor skills, fitness, health
7	f	9	3	3	3	4	3	
(N=17)	%	52.9%	17.6%	17.6%	17.6%	23.5%	17.6%	
10	f	43	21	11	11	8	6	
(N=100)	%	43.0 %	21.0 %	11.0 %	11.0 %	8.0 %	6.0 %	

5. Conclusions and Discussion

Firstly, this study suggests that there is a widely recognized consensus among pre-service class teachers, despite of their various backgrounds, that PE must be positive, encouraging and diverse. Secondly, there are suggestive findings that various backgrounds, as socializing environments, affect pre-service class teachers' conceptions of the good teaching of physical education. *Encouraging and stimulating PE* was favored by female respondents, *diverse PE* by students with a team PA and active background and by those who had the very best grades of PE in the diploma from upper secondary school. *Inclusivity and equality* was favored by male respondents and those with passive PA background and lowest grades of PE in the diploma from the upper secondary school. Finally, *non-competitiveness* and *child centeredness and safety* were mostly the conceptions identified by women, the students with passive PA background and the lowest grades of PE in the upper secondary school.

The differences between the backgrounds and conceptions of Good PE in the primary school were studied at the beginning of their PE studies in the formal teacher training. The aim was to study how the various biographies, as socialization environments into teaching PE, can be seen in students' conceptions of Good PE. Before discussing the findings, it is important to outline some limitations of the current study. How the conceptions are transmitted to the teaching behavior of the pre-service class teachers in the future cannot be studied within this data. Using open questions to get a picture of students' lifetime backgrounds, in leisure time physical activities and schoolings, was a challenge for the researcher to categorize. Furthermore, it is obvious that the differences of conceptions, studied by the background variables, were affected by the fact that the vast majority of the respondents were female. The data analysis in this study was limited to cross tabulation which reveals well the differences within the background variables but not between them. More precise analysis is needed to study the co-effects of various background variables, especially the effect of

the gender. However, the main task of this study was to examine the differences within the variables not between them.

The main findings of the pre-service teachers' conceptions of Good PE in the primary school showed firstly that they stressed clearly the value of PE to be enjoyable and encouraging. The respondents were also quite of one mind about PE's task to open the world of diverse physical activities for all children despite the personal differences, like the shape of your body, abilities to learn, motor skills, physical fitness or motivation. Secondly, it was also an interesting result that the respondents mentioned quite often non-competitiveness as a characteristic of Good PA. Those few, who mentioned competition as a criterion for quality PE softened it to be playful, not serious and between teams, instead of individuals. The conceptions of the respondents seemed to project the views of quite widespread acceptance in the society. These qualities may be known to be good to mention if asked. Furthermore, even if PE is a subject which is to develop the whole person, its special task is also to develop motor abilities and to teach motor skills. The conceptions of Good PE missed quite totally these aspects of quality PE. Though, these characteristics were in one way embedded in their conceptions of diversity of physical education.

The differences between the various backgrounds and conceptions of Good PE were not clear and only a few statistically significant differences were established. However, many interesting notices were made. Some differences between the genders were reported. Female respondents favored *encouraging and stimulating, child centeredness and safeness, non-competitiveness, facilitating experiences of success and promoting a physically active lifestyle* as features of good PE. This indicates that female pre-service class teachers are laying more emphasis on soft values of PE. However, it is important to notice that female respondents named altogether more conceptions of good PE than male students which was emerged in higher percentage values and a feminine emphasis of the conceptions. Furthermore, it is important to pay attention to gender differences because the vast majority of pre-service class teachers at the University of Helsinki are female, and the proportion of female teachers in primary schools (72%) is similar, which means that teaching in schools lies mostly in the hands of female teachers. In this study the differences between conceptions according to the other background variables elaborated by gender were not explored, but it is a strong suggestion for further studies.

The respondents with the history of participating team physical activities seemed to result in favoring *diversity* in PE. Furthermore, the students with the history of individual-based PA favored *non-competitiveness, facilitating experiences of success* and *child centeredness and safeness* as characteristics of Good PE, which may be explained by the fact that the reported team physical activities were mostly sports activities with a competitive focus.

The respondents with a passive PA background tended to favor *child centeredness and safeness* as a quality of good PE. Furthermore, the respondents with an active PA background mentioned more frequently *diversity* as a feature of good teaching. Laying more emphasis on the quality of child centeredness and safeness may indicate poor personal experiences in physical education, because this quality was also favored by the respondents with the lowest grades in PE. This explanation is supported by the findings of Morgan & Hansen (2008) and Morgan and Bourke (2008) showing that individual's personal school experiences predict her confidence to teach PE or the avoidance of repeating the poor memories.

In addition to favoring *child centeredness and safeness* as a quality of good PE the students with the modest grades in PE stressed also *inclusivity and equality, non-competitiveness, facilitating experiences of success, and developing motor skills, fitness and health* as characteristics of good PE. These findings may indicate that these elements were missing in their own school PE. According to Morgan & Hansen (2008), teachers who had themselves experienced poor quality PE as pupils wanted to avoid it with their own pupils and were more sensitive to notice the needs of pupils with

lower levels of physical competence. Strong confidence has been found to be connected to positive attitudes and intentions to teach PE (Morgan & Bourke 2008; Faulkner & Reeves 2000). The lack of confidence may lead to avoidance of teaching diverse skills and favoring of a non-teaching strategy.

This study suggests deepening the research of the formation of conceptions because they are reflections of the values, attitudes and intentions which most probably will be established in their teaching behavior. However, the impact of conceptions to the formal teacher training and pre-service class teachers' teaching behavior in physical education in the future remains to be studied.

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